

(FILE 'USPAT' ENTERED AT 16:10:42 ON 13 SEP 1998)

L1 37404 S 204/CLAS
L2 24575 S 205/CLAS
L3 151 S CUP(W) (PLATE OR PLATING OR PLATES OR PLATED OR PLATER)
L4 1 S L3 AND L1
L5 1 S L3 AND L2
L6 2 S L4 OR L5

=> d 1-2

1. 5,000,827, Mar. 19, 1991, Method and apparatus for adjusting plating solution flow characteristics at substrate cathode periphery to minimize edge effect; Virgil E. Schuster, et al., 205/118, 136 [IMAGE AVAILABLE] *DL*

2. 3,901,788, Aug. 26, 1975, **Cup plating** rack; Glenn R. Schaer, 204/297W, 222 [IMAGE AVAILABLE]

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L1 37404 S 204/CLAS
L2 24575 S 205/CLAS
L3 151 S CUP(W) (PLATE OR PLATING OR PLATES OR PLATED OR PLATER)
L4 1 S L3 AND L1
L5 1 S L3 AND L2
L6 2 S L4 OR L5
L7 3858 S (CUP OR CUPS) (3A) (PLATE OR PLATING OR PLATES OR PLATED O
R P
L8 33 S L1 AND L7
L9 8715 S L1 AND L2
L10 17 S L2 AND L7
L11 42 S L8 OR L10

=> d 1-42

1. 5,804,043, Sep. 8, 1998, Surface treatment device; Hirohiko Ikegaya, 204/224R; 118/317, 423; 204/269, 272, 275 [IMAGE AVAILABLE] *05/10/12*
2. 5,766,441, Jun. 16, 1998, Method for manufacturing an orifice plate; Stefan Arndt, et al., 205/170, 75, 122, 127, 150, 183; 239/596; 347/47 [IMAGE AVAILABLE] *05/10/14*
3. 5,707,503, Jan. 13, 1998, Oxygen sensor element; Yasumichi Hotta, et al., 204/426, 424; 205/163, 167, 210, 219 [IMAGE AVAILABLE] *05/10/29*
4. 5,658,442, Aug. 19, 1997, Target and dark space shield for a physical vapor deposition system; James Van Gogh, et al., 204/298.12, 192.12, 298.11 [IMAGE AVAILABLE] *05/10/6*
5. 5,450,822, Sep. 19, 1995, Apparatus and method for electrolysis to enhance combustion in an internal combustion engine; John E. Cunningham, 123/3, DIG.12; 204/272 [IMAGE AVAILABLE] *05/10/10*
6. 5,447,615, Sep. 5, 1995, Plating device for wafer; Hirofumi Ishida, 204/224R, 297R [IMAGE AVAILABLE] *05/10/11*
7. 5,443,707, Aug. 22, 1995, Apparatus for electroplating the main surface of a substrate; Hiroyuki Mori, 204/242, 245, 275, 284 [IMAGE AVAILABLE] *05/10/11*
8. 5,441,629, Aug. 15, 1995, Apparatus and method of electroplating; Katsuya Kosaki, 205/148; 204/225, 269, 270, 274, 275, 277, 278; 205/205 [IMAGE AVAILABLE] *05/10/11*
9. 5,429,733, Jul. 4, 1995, Plating device for wafer; Hirofumi Ishida, 204/224R, 279, 297M, 297R [IMAGE AVAILABLE] *05/10/11*
10. 5,344,491, Sep. 6, 1994, Apparatus for metal plating; Mariko Katou, 118/695, 712; 204/238, 239, 269, 297R [IMAGE AVAILABLE] *05/10/11*
11. 5,320,733, Jun. 14, 1994, Sensor system; Alfred Bohm, 204/408, 409, 415, 424; 205/788 [IMAGE AVAILABLE] *05/10/12*

- (here)
12. 5,000,827, Mar. 5, 1991, Method and apparatus for adjusting plating solution flow characteristics at substrate cathode periphery to minimize edge effect; Virgil E. Schuster, et al., 205/118, 136 [IMAGE AVAILABLE] AL
13. 4,997,529, Mar. 5, 1991, Electrolytic process and apparatus for forming pattern on surface of metallic object; Nobuo Totsuka, et al., 205/135, 204/224R [IMAGE AVAILABLE]
nerb 28
14. 4,969,980, Nov. 13, 1990, Process for electroplating stainless steel strips with zinc or zinc-nickel alloy; Keiichi Yoshioka, et al., 205/130, 217, 246, 305 [IMAGE AVAILABLE]
p650 46
15. 4,956,066, Sep. 11, 1990, Device for carrying out field supported ion exchange in plane-parallel plates; Edilbert A. K. Froning, et al., 204/243R, 247 [IMAGE AVAILABLE]
b3m 12
16. 4,956,058, Sep. 11, 1990, Scroll type fluid displacement apparatus with surface treated spiral element; Fumiyoshi Saito, 148/241, 285; 205/661, 427/309 [IMAGE AVAILABLE]
p610 2
17. 4,948,492, Aug. 14, 1990, Electrode probe for use in aqueous environments of high temperature and high radiation; Leonard W. Niedrach, et al., 204/435, 376/245, 256 [IMAGE AVAILABLE]
p610 11
18. 4,940,538, Jul. 10, 1990, Apparatus for decalcifying water by producing turbulence; Erik Kyster, et al., 210/137, 137/494, 503, 138/45, DIG.6, 204/197, 210/206, 209 [IMAGE AVAILABLE]
ul 8
19. 4,900,418, Feb. 13, 1990, Electrolytic chlorine generator with cover element; Robert E. Maddock, 204/266, 271 [IMAGE AVAILABLE]
p690 2
20. 4,861,563, Aug. 29, 1989, Vacuum load lock; Brian H. Shekerjian, et al., 422/186.05, 156/345, 204/298.25, 298.35, 414/217, 222, 939, 422/186.06, 906, 907 [IMAGE AVAILABLE]
21. 4,793,909, Dec. 27, 1988, Electrolytic chlorine generator with salt spacer; Robert E. Maddock, 204/266, 270, 271 [IMAGE AVAILABLE]
22. 4,744,877, May 17, 1988, Apparatus for generating chlorine gas; Robert E. Maddock, 204/266, 271 [IMAGE AVAILABLE]
23. 4,655,884, Apr. 7, 1987, Nickel plating of refractory metals; Stanley Hills, et al., 205/181, 206, 210, 212, 224 [IMAGE AVAILABLE]
b3m 10
24. 4,642,174, Feb. 10, 1987, Apparatus for determining the oxygen content in gases; Masahiro Shibata, 204/408, 424, 425, 428, 429 [IMAGE AVAILABLE]
25. 4,634,511, Jan. 6, 1987, Device for electropolishing the inner surface of hollow cylindrical bodies; Hermann Operschall, et al., 204/212, 224M, 225, 272, 376/310, 976/DIG.376 [IMAGE AVAILABLE]
26. 4,612,093, Sep. 16, 1986, Method and apparatus for purification of gold; Peter S. Shor, 205/566, 75/741, 106/1.26, 204/263, 264, 423/38 [IMAGE AVAILABLE]
p610 2 6

27. 4,457,811, Jul. 3, 1984, Process for producing elements from a fused bath using a metal stop and ceramic electrode for nonconsumable electrode assembly; Stephen C. Byrne, 205/369; 204/286, 291, 297R; 205/387, 397, 399, 404, 410 [IMAGE AVAILABLE]
28. 4,339,319, Jul. 13, 1982, Apparatus for plating semiconductor wafers; Seiichiro Aigo, 204/224R, 275, 297R [IMAGE AVAILABLE]
29. 4,220,516, Sep. 2, 1980, Oxygen sensor; Hiromi Sano, et al., 204/429, 427 [IMAGE AVAILABLE]
30. 4,204,917, May 27, 1980, Method for measuring ion activity; Tadao Yamamoto, et al., 205/781.5, 792; 422/63, 64, 72, 98 [IMAGE AVAILABLE]
31. 4,172,777, Oct. 30, 1979, Apparatus for measuring ion activity; Tadao Yamamoto, et al., 204/406; 73/864.23; 204/400, 412 [IMAGE AVAILABLE]
32. 4,120,758, Oct. 17, 1978, Production of powder metallurgy alloys; Ralph E. Rippere, 419/1; 205/74, 103, 145, 149 [IMAGE AVAILABLE]
33. 4,046,643, Sep. 6, 1977, Production of multi-metal particles for powder metallurgy alloys; Ralph E. Rippere, 205/103; 204/223; 205/74, 104, 145 [IMAGE AVAILABLE]
34. 3,954,954, May 4, 1976, Plasma method and apparatus for carrying out high temperature chemical reactions; Robert D. Davis, et al., 423/492; 204/164 [IMAGE AVAILABLE]
35. 3,939,046, Feb. 17, 1976, Method of electroforming on a metal substrate; Gordon A. Conn, et al., 205/73, 67 [IMAGE AVAILABLE]
36. 3,926,508, Dec. 16, 1975, Manufacturing a cold light mirror by evaporating ZnS and SiO alternately in an O.sub.2 atmosphere; Jan Willem Harmsen, et al., 359/884; 204/192.27; 353/98; 359/589, 839; 427/10, 107, 109, 164, 166, 167, 255, 255.3 [IMAGE AVAILABLE]
37. 3,901,788, Aug. 26, 1975, **Cup plating** rack; Glenn R. Schaer, 204/297W, 222 [IMAGE AVAILABLE]
38. 3,875,028, Apr. 1, 1975, Method of manufacture of x-ray tube having focusing cup with non-emitting coating; Zed J. Atlee, et al., 205/149; 204/192.11, 192.3; 205/162, 224, 228; 378/138; 427/531; 445/28, 35 [IMAGE AVAILABLE]
39. 3,865,709, Feb. 11, 1975, Carbon activity meter; Prodyot Roy, et al., 204/433; 429/29 [IMAGE AVAILABLE]
40. 3,840,750, Oct. 8, 1974, PLASMA APPARATUS FOR CARRYING OUT HIGH TEMPERATURE CHEMICAL REACTIONS; Robert D. Davis, et al., 422/186.25; 204/164; 422/186.22 [IMAGE AVAILABLE]
41. 3,642,591, Feb. 15, 1972, ELECTRO ZINC PLATING SOLUTION; Cesar Adrianus Boose, et al., 205/314, 311 [IMAGE AVAILABLE]
42. 3,625,850, Dec. 7, 1971, SENSING DEVICE FOR FLUID MEDIA; James R. Arrington, 204/402, 400, 416; 324/425 [IMAGE AVAILABLE]

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L4 1 S L3 AND L1
L5 1 S L3 AND L2
L6 2 S L4 OR L5
L7 3858 S (CUP OR CUPS) (3A) (PLATE OR PLATING OR PLATES OR PLATED O
R P
L8 33 S L1 AND L7
L9 8715 S L1 AND L2
L10 17 S L2 AND L7
L11 42 S L8 OR L10
L12 74106 S ANODE OR ANODES
L13 730 S L12 (3A) ANNULAR
L14 0 S L13 AND L11
L15 730 S L12 (P) L13
L16 0 S L15 AND L11

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L8 33 S L1 AND L7
L9 8715 S L1 AND L2
L10 17 S L2 AND L7
L11 42 S L8 OR L10
L12 74106 S ANODE OR ANODES
L13 730 S L12(3A) ANNULAR
L14 0 S L13 AND L11
L15 730 S L12 (P) L13
L16 0 S L15 AND L11
L17 4494 S ROBBER OR ROBBERS OR THIEF OR THIEFS OR THIEVES
L18 0 S L17 AND L11
L19 4555 S CURRENT(4A) (UNIFORM OR UNIFORMITY)
L20 2 S L19 AND L11
L21 129 S 205/96-97/CCLST
L22 0 S 204/DIG 7/CCLS
L23 0 S 204/DIG7/CCLS
L24 338687 S (BIAS OR BIASES OR BIASED OR BIASING)
L25 284973 S PULSE OR PULSED OR PULSES OR PULSING OR PULSATING
L26 4301 S L24(5A) L25
L27 0 S L21 AND L26
L28 8 S L21 AND L25
L29 310205 S ANNULAR
L30 12 S L11 AND L29

=> d 1-12

1. 5,447,615, Sep. 5, 1995, Plating device for wafer; Hirofumi Ishida, 204/224R, 297R [IMAGE AVAILABLE]
sum 16 & 18 shown now in annular peripheral member for reactive water
2. 5,429,733, Jul. 4, 1995, Plating device for wafer; Hirofumi Ishida, 204/224R, 279, 297M, 297R [IMAGE AVAILABLE]
fig 8 & 9 air bag 6 is formed into separate annular ring shaped configuration
3. 5,000,827, Mar. 19, 1991, Method and apparatus for adjusting plating solution flow characteristics at substrate cathode periphery to minimize edge effect; Virgil E. Schuster, et al., 205/118, 136 [IMAGE AVAILABLE] *fig 19 & 20 the apparatus illustrated in fig 19 in annular ring 100 with a 1) portion of cup*
4. 4,956,058, Sep. 11, 1990, Scroll type fluid displacement apparatus with surface treated spiral element; Fumiyoshi Saito, 148/241, 285; 205/661; 427/309 [IMAGE AVAILABLE]
5. 4,948,492, Aug. 14, 1990, Electrode probe for use in aqueous environments of high temperature and high radiation; Leonard W. Niedrach, et al., 204/435; 376/245, 256 [IMAGE AVAILABLE]
6. 4,940,538, Jul. 10, 1990, Apparatus for decalcifying water by

producing turbulence; Erik Kyster, et al., 210/137; 137/494, 503; 138/45, DIG.6; 204/197; 210/2 209 [IMAGE AVAILABLE]

7. 4,634,511, Jan. 6, 1987, Device for electropolishing the inner surface of hollow cylindrical bodies; Hermann Operschall, et al., 204/212, 224M, 225, 272; 376/310; 976/DIG.376 [IMAGE AVAILABLE]

8. 4,339,319, Jul. 13, 1982, Apparatus for plating semiconductor wafers; Seiichiro Aigo, 204/224R, 275, 297R [IMAGE AVAILABLE] *DETENTION APPARATUS according to an improvement in an apparatus for plating semiconductor bodies to a device in connection with wafer 12*

9. 4,120,758, Oct. 17, 1978, Production of powder metallurgy alloys; Ralph E. Rippere, 419/1; 205/74, 103, 145, 149 [IMAGE AVAILABLE]

10. 4,046,643, Sep. 6, 1977, Production of multi-metal particles for powder metallurgy alloys; Ralph E. Rippere, 205/103; 204/223; 205/74, 104, 145 [IMAGE AVAILABLE]

11. 3,954,954, May 4, 1976, Plasma method and apparatus for carrying out high temperature chemical reactions; Robert D. Davis, et al., 423/492; 204/164 [IMAGE AVAILABLE]

12. 3,840,750, Oct. 8, 1974, PLASMA APPARATUS FOR CARRYING OUT HIGH TEMPERATURE CHEMICAL REACTIONS; Robert D. Davis, et al., 422/186.25; 204/164; 422/186.22 [IMAGE AVAILABLE]

(FILE 'USPAT' ENTERED AT 09:02:54 ON 14 SEP 1998)

L1 11086 S 205/80-333/CCLST
L2 4027 S FLOW SENSOR
L3 2 S L1 AND L2
L4 1073 S 204/275-276/CCLST
L5 18067 S PRESSURE REGULATOR#
L6 4 S L2 AND L4

=> d 1-4

1. 5,575,974, Nov. 19, 1996, Apparatus and method for an anodic oxidation biocidal treatment; Stephen R. Wurzburger, et al., 204/232, 240, 275, 600, 664, 674; 205/701; 210/243, 748; 422/186, 186.01 [IMAGE AVAILABLE]

2. 4,933,061, Jun. 12, 1990, Electroplating tank; Krishna Kulkarni, et al., 204/224R, 237, 269, 273, 274, 275, 297W, DIG.7 [IMAGE AVAILABLE]

3. 4,572,775, Feb. 25, 1986, Apparatus for sterilizing fluids; Juan G. Paniagua, 204/229, 276; 210/143, 223 [IMAGE AVAILABLE]

4. 3,959,110, May 25, 1976, Apparatus for silver recovery; Kenneth G. Burgess, 204/229, 273, 275; 366/152.2, 152.4, 182.2, 274 [IMAGE AVAILABLE]